



Hospital admissions as a function of temperature, other weather phenomena and pollution levels in an urban setting in China

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Abstract:

Objective To explore the relationship between weather phenomena and pollution levels and daily hospital admissions (as an approximation to morbidity patterns) in Hong Kong Special Administrative Region (SAR), China, in 1998-2009. **Methods** Generalized additive models and lag models were constructed with data from official sources on hospital admissions and on mean daily temperature, mean daily wind speed, mean relative humidity, daily total global solar radiation, total daily rainfall and daily pollution levels. **Findings** During the hot season, admissions increased by 4.5% for every increase of 1 °C above 29 °C; during the cold season, admissions increased by 1.4% for every decrease of 1 °C within the 8.2-26.9 °C range. In subgroup analyses, admissions for respiratory and infectious diseases increased during extreme heat and cold, but cardiovascular disease admissions increased only during cold temperatures. For every increase of 1 °C above 29 °C, admissions for unintentional injuries increased by 1.9%. During the cold season, for every decrease of 1 °C within the 8.2-26.9 °C range, admissions for cardiovascular diseases and intentional injuries rose by 2.1% and 2.4%, respectively. Admission patterns were not sensitive to sex. Admissions for respiratory diseases rose during hot and cold temperatures among children but only during cold temperatures among the elderly. In people aged 75 years or older, admissions for infectious diseases rose during both temperature extremes. **Conclusion** In Hong Kong SAR, hospitalizations rise during extreme temperatures. Public health interventions should be developed to protect children, the elderly and other vulnerable groups from excessive heat and cold.

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Resource Description

Exposure : ☑

weather or climate related pathway by which climate change affects health

Air Pollution, Meteorological Factors, Meteorological Factors, Precipitation, Solar Radiation, Temperature

Air Pollution: Interaction with Temperature, Ozone, Particulate Matter, Other Air Pollution

Air Pollution (other): NO₂, SO₂

Temperature: Extreme Cold, Extreme Heat

Geographic Feature: ☑

resource focuses on specific type of geography

Climate Change and Human Health Literature Portal

Ocean/Coastal, Urban

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: China

Health Impact:

specification of health effect or disease related to climate change exposure

Cancer, Cardiovascular Effect, Diabetes/Obesity, Infectious Disease, Injury, Respiratory Effect, Urologic Effect, Other Health Impact

Cardiovascular Effect: Other Cardiovascular Effect

Cardiovascular Disease (other): circulatory diseases

Other Health Impact: hospitalizations; cirrhosis

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Children, Elderly

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified